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Effect of yogic practices and physical exercises on selected physical and psychological variables among information technology professionals

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Abstract

The purpose of the study was to find out the effect of yogic practices and physical exercises on selected physical and psychological variables among Information Technology professional. To achieve this purpose of the study, only forty five (n=45) male subjects were selected from Information Technology companies in Chennai. The subjects of the study were selected at random. The age of the subjects were ranged between 30 to 40 years. The selected subjects were divided into three equal groups of fifteen subjects each, such as experimental groups I & II and control group. This study consisted of four equal groups of fifteen subjects each. Group-I (n=15) underwent yogic practices, group-II (n=15) underwent physical exercise, group-III (n=15) acted as control group. The experimental groups were trained for three alternative days in a week for twelve weeks with their specific training. The collected data from the three groups prior to and immediately after the experimental treatments on selected dependent variables were statistically analyzed by using the statistical technique of analysis of covariance (ANCOVA), whenever they obtained 'F' ratio for the adjusted posttest means was found to be significant, the Scheffe's post hoc test was applied to determine the paired mean differences, if any, was used. The results of the study revealed that there was a significant improvement on selected physical and psychological variables due to yogic practices and physical exercises groups as compared to control group.

Keywords: Yogic practices and physical exercises, physical and psychological variables

Introduction

An asana is a body posture, originally a sitting pose for meditation, and later in hatha yoga and modern yoga as exercise, adding reclining, standing, inverted, twisting, and balancing poses to the meditation seats. The Yoga Sutras of Patanjali define "asana" as "[a position that] is steady and comfortable".

Physical exercise is important for maintaining physical fitness and can contribute to maintaining a healthy weight, regulating the digestive system, building and maintaining healthy bone density, muscle strength, and joint mobility, promoting physiological well-being, reducing surgical risks, and strengthening the immune system. Some studies indicate that exercise may increase life expectancy and the overall quality of life.

Statement of the Problem

The purpose of the study was to find out the effect of yogic practices and physical exercises on selected criterion variables such as endurance, flexibility, attitude and general mental alertness among Information Technology professionals.

Hypotheses

1. It was hypothesized that there would be significant improvement due to the effect of yogic practice groups on selected physical and psychological variables due to the effect of yoga practices than the control group among information technology professional.
2. It was hypothesized that there would be significant improvement on selected physical and psychological variables due to the effect of physical exercises than the control group among information technology professional.
3. It was hypothesized that there would be significant difference between in yoga practices

and physical exercises groups on selected physical and psychological variables among information technology professional.

Delimitations

The following delimitations were taken into consideration in the interpretation of results

1. The study was confined to the people who work in Information Technology professionals.
2. Only forty five male Information Technology professionals were randomly selected from various software companies from Chennai only. The age of the subjects were ranging from 30 to 40 years only.
3. The participants were assigned randomly into three groups (n=15) in which group I (n=15) underwent yogic practices, group II (n=15) underwent physical exercises training program and group III (n=15) acted as control.
4. The studies were restricted to related variables namely endurance, flexibility, attitude and general mental alertness only.
5. The training period was limited to twelve weeks only and five days per week with one session per day.

Methodology

Selection of the Subjects

The purpose of the study was to find out the effect of yogic practices and physical exercises on selected physical and

psychological variables among Information Technology professional. To achieve this purpose of the study, only forty five (n=45) male subjects were selected from Information Technology companies in Chennai. The subjects of the study were selected at random. The selected subjects were divided into three equal groups of fifteen subjects each, such as experimental groups I & II and control group. The age of the subjects were ranged between 30 to 40 years. All the subjects were informed about the nature of the study and their consent was obtained to co-operate till the end of the experiment and testing periods and their consent was obtained to co-operate till the end of the experiment and testing periods.

Selection of the Variables

Dependent Variables

1. Endurance
2. Flexibility
3. Attitude
4. General Mental Alertness

Independent Variables

1. Yogic Practices
2. Physical Exercises

Selection of Tests

Table 1: The Selected criterion variables were tested by following standardized test items,

SL. No	Variables	Test/Equipment used	Measuring Unit
1	Endurance	Coopers 9 min run/walk Test	In Meters
2	Flexibility	Sit and Reach Test	In Centimeters
3	Attitude	Kay Slama (2009) Questionnaire	In Points
4	General Mental Alertness	Dr. R.P. Srivastava (Jabalpur) Scale	In Points

Experimental design

The study was formulated as a true random research group design consisting of a pretest and posttest. For the purpose of the study the subjects of 45 Information Technology professionals between the age group of 30 to 40 years were selected and divided into three groups via two experimental groups and one control group. All the groups were tested on selected variables before the training. Both the experimental groups were given training for twelve weeks from Monday to Friday (five days a week). The post test scores were also recorded on selected physical and psychological variables, and both pre and posttests mean values were compared for analysis using statistical technique of analysis of covariance (ANCOVA). Whenever the “F” ratio for adjusted post-test means was found to be significant, Scheffe’s test was followed as a post hoc test to determine which of the paired means difference was significant. In all the cases 0.05 level

of confidence was fixed as a level of confidence to test the hypotheses.

Training Programme

The subjects were selected at random and were divided into three groups and the experimental group I was given yogic practices, experimental group II was given physical exercises, at 6.00 am to 7.00 am. And the group III which the control group was not given any training.

Table 2: Training Program for Experimental Groups

Groups	Programmes
Experimental Group – I	Yogic practices.
Experimental Group - II	Physical Exercises.
Group –III - Control Group	No training

Analysis of Data

Table 3: Analysis of Covariance of data on Physical and Psychological anxiety and Stress between Pre and Post Test of Pranayama Practices Group and Meditation Practices Group and Control Group

Variables	Test	Yogic Practices Group	Physical Exercise Group	Control Group	Source of Variances	Sum of Squares	df	Mean Squares	Obtained ‘F’ Ratio
Endurance (Meters)	Pre-Test	1317.67	1305.33	1323.33	B	28007.78	2	14003.89	1.02
					W	579250.00	42	13791.67	
	Post-Test	1586.33	1533.33	1361.26	B	271234.44	2	135617.22	9.9*
					W	571640.00	42	13610.48	
	Adjusted Post-Test	1610.66	1585.02	1375.89	B	265788.29	2	132894.15	9.54*
					W	571141.27	41	13930.27	
Flexibility	Pre-Test	25.40	25.67	23.07	B	61.38	2	30.689	1.97

	Post-Test	29.40	28.07	20.53	W	655.87	42	15.62	39.32*		
					B	685.73	2	342.87			
	Adjusted Post-Test	29.28	27.90	20.81	W	366.27	42	8.72			
					B	569.80	41	284.90			
	Attitude	Pre-Test	28.93	32.60	2793	B	181.11	2		90.556	1.21
						W	31.37.47	42		74.70	
Post-Test		21.93	22.20	34.53	B	1554.71	2	777.70	16.63*		
					W	1963.07	42	46.74			
Adjusted Post-Test		22.21	21.33	35.12	B	1740.30	2	870.15		21.55*	
					W	1655.292	41	40.37			
General Mental Alertness	Pre-Test	28.93	32.60	27.93	B	181.11	2	90.556			1.21
					W	3137.47	2	74.70			
	Post-Test	21.93	22.20	3453	B	1554.71	2	777.36	16.63*		
					W	1963.07	42	46.74			
	Adjusted Post-Test	22.21	21.33	35.12	B	1740.30	2	870.15		21.55*	
					W	1655.292	41	40.37			

Table f-ratio at 0.05 level of confidence for 2 and 42 (df) = 3.22, 2 and 41 (df) = 3.23. *significant

Table 4: Scheffe’s Post Hoc Test for the Difference between Six Paired Adjusted Post Test Means of Anxiety and Stress

Variables	Yogic Practices Group	Physical Exercise Group	Control Group	Mean Difference	Confidence Interval
Endurance	1610.66	158502	-	25.64	107.31
	1610.6	-	1375.89	234.77*	107.31
	-	1585.02	1375.89	209.13*	107.31
Flexibility	29.28	27.90	-	1.38	2.65
	29.28	-	20.81	8.47*	2.65
	-	27.90	20.81	7.09*	2.65
Attitude	21.92	21.33	-	0.88	5.78
	21.92	-	3512	12.91*	5.78
	-	21.33	35.12	13.79	5.78
General mental alertness	53.67	54.16	-	0.49	10.32
	53.67	-	69.84	16.16*	10.32
	-	54.16	69.84	15.68*	10.32

Discussion on hypotheses

The first hypothesis states that that there would be significant differences in Yogic practices group than the control group on selected physical fitness variables and psychological variables among Information Technology professionals. The results presented in the table III on endurance, flexibility, attitude and general mental alertness respectively proved that there were significant changes due to twelve weeks of Yogic practices group, hence the hypothesis was accepted at 0.05 level of significance.

The second hypothesis states that that there would be significant differences in Physical exercises group than the control group on selected physical fitness variables and psychological variables among Information Technology professionals. The results presented in the table III on endurance, flexibility, attitude and general mental alertness respectively proved that there were significant changes due to twelve weeks of Physical exercises group. Hence the hypothesis was accepted at 0.05 level of significance.

The third hypothesis states that that there would be significant difference between Yogic practices group and Physical exercises group on selected Physical fitness variables and Psychological Variables among Information Technology professionals. The results presented in the table III on Endurance, Flexibility Attitude and General mental alertness respectively proved that there was no significant changes due to twelve weeks of Yogic practices group and Physical exercises group. Hence the hypothesis was rejected at 0.05 level of significance.

Conclusions

1. For the purpose of this study it was concluded that the Yogic practices (Experimental Group – I) & Physical exercises (Experimental Group II) would improve the selected Physical and psychological variables as compared to control group (group III).
2. For the purpose of this study it was concluded that there was significant differences on Yogic practices (Experimental Group – I), Physical exercises (Experimental Group II) helped to increase the endurance, flexibility, attitude and general mental alertness among Information Technology professional than the control group.
3. For the purpose of this study it was concluded that the there was no significant differences between Yogic practices (Experimental Group – I) and Physical exercises (Experimental Group II) of Endurance, Flexibility, Attitude and General mental alertness among Information Technology professionals.

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